

We claim:

1                    1.     An endovascular apparatus for developing an inflammatory  
2 response in a body cavity with cellular manipulation comprising:  
3                    a separable implant comprised at least in part of at least one  
4 biocompatible and bioabsorbable polymer; and  
5                    an endovascular placement device associated with said separable implant  
6 adapted to dispose said implant into said body cavity.

1                    2.     The apparatus of claim 1 wherein said implant further is  
2 comprised at least in part of a noncollagenous protein.

1                    3.     The apparatus of claim 1 wherein said implant further is  
2 comprised at least in part of a growth factor.

1                    4.     The apparatus of claim 3 wherein said implant further is  
2 comprised at least in part of a one selected from the group of VEGF, b-FGF,  
3 TGF, PDGF or mixtures thereof.

1                    5.     The apparatus of claim 3 wherein said implant further is  
2 comprised at least in part of a basic fibroblast growth factor.

1                   6.     The apparatus of claim 4 wherein said implant further is  
2     comprised at least in part of a mixture of said vascular endothelial growth factor  
3     and a basic fibroblast growth factor.

1                   7.     The apparatus of claim 1 wherein said biocompatible and  
2     bioabsorbable polymer is at least one polymer selected from the group consisting  
3     of polyglycolic acid, poly~glycolic acid/poly-L-lactic acid copolymers,  
4     polycaprolactive, polyhydroxybutyrate/hydroxyvalerate copolymers, poly-L-  
5     lactide, polydioxanone, polycarbonates, and polyanhydrides.

1                   8.     The apparatus of claim 2 wherein said biocompatible and  
2     bioabsorbable protein is at least one protein selected from the group consisting  
3     of fibrinogen, fibronectin, vitronectin, laminin, and gelatin.

1                   9.     The apparatus of claim 1 wherein a radio-opaque material is  
2     disposed on said implant.

1                   10.    The apparatus of claim 1 wherein said implant composed of  
2     a radio-opaque material, and wherein said biocompatible and bioabsorbable  
3     polymer or protein is disposed thereon.

1                    11.    The apparatus of claim 1 wherein said biocompatible and  
2    bioabsorbable polymer promotes cellular manipulation, controlled inflammatory  
3    response and vascular healing.

1                    12.    A method for creating an inflammatory response in a body  
2    cavity comprising:  
3                    providing a separable implant comprised at least in part of at least one  
4    biocompatible and bioabsorbable polymer; and  
5                    disposing said separable implant into said body cavity.

1                    13.    The method of claim 12 further providing said implant with a  
2    noncollagenous protein.

1                    14.    The method of claim 12 further providing said implant with a  
2    growth factor.

1                    15.    The method of claim 14 wherein providing said implant with  
2    a growth factor comprises providing said implant with a vascular endothelial  
3    growth factor.

1                    16.    The method of claim 14 wherein providing said implant with  
2    a growth factor comprises providing said implant with a basic fibroblast growth  
3    factor.

1                    17.    The method of claim 15 wherein providing said implant with  
2    a growth factor comprises providing said implant with a mixture of said vascular  
3    endothelial growth factor and a basic fibroblast growth factor.

1                    18.    The method of claim 12 wherein providing said separable  
2    implant comprised with said biocompatible and bioabsorbable polymer comprises  
3    providing said implant with at least one polymer selected from the group  
4    consisting of polyglycolic acid, poly~glycolic acid/poly-L-lactic acid copolymers,  
5    polycaprolactone, polyhydroxybutyrate/hydroxyvalerate copolymers, poly-L-  
6    lactide, polydioxanone, polycarbonates, and polyanhydrides.

1                    19.    The method of claim 13 wherein providing said separable  
2    implant comprised with said biocompatible and bioabsorbable protein comprising  
3    providing at least one protein selected from the group consisting of fibrinogen,  
4    fibronectin, vitronectin, laminin, and gelatin.

1                   20.    The method of claim 12 wherein providing said implant  
2   provides a implant composed of said biocompatible and bioabsorbable polymer  
3   with a radio-opaque material is disposed thereon.

1                   21.    The method of claim 12 wherein providing said implant  
2   provides a implant composed of a radio-opaque material with said biocompatible  
3   and bioabsorbable polymer is disposed thereon.

1                   22.    The apparatus of claim 1 where said biocompatible and  
2   bioabsorbable polymer does not elicit intense chronic foreign body reaction.

1                   23.    The apparatus of claim 1 where said endovascular  
2   placement device is used to dispose said implant at an implantation site and  
3   where said biocompatible and bioabsorbable polymer is gradually absorbed and  
4   does not leave residua in said implantation site.

1                   24.    The apparatus of claim 1 where said biocompatible and  
2   bioabsorbable polymer is faster degrading and provides a stronger inflammatory  
3   reaction than metal coils.

1                   25.    The apparatus of claim 1 where said biocompatible and  
2   bioabsorbable polymer has a selected composition to provide a controlled  
3   degradation time to thereby control intravascular inflammatory reactions.

1                   26.    The apparatus of claim 1 where said biocompatible and  
2   bioabsorbable polymer regenerates tissue through the interaction of immunologic  
3   cells.

1                   27.    The apparatus of claim 1 where said biocompatible and  
2   bioabsorbable polymer stimulates cellular infiltration and proliferation in the  
3   process of degradation to accelerate fibrosis.

1                   28.    The apparatus of claim 1 where said biocompatible and  
2   bioabsorbable polymer accelerates fibrosis within an aneurysm to more strongly  
3   anchor said implant than does metal coils.

1                   29.    The apparatus of claim 1 where said biocompatible and  
2   bioabsorbable polymer is characterized by generating more connective tissue  
3   and a less unorganized clot than metal coils so that an aneurysm in which said  
4   implant is disposed is more resistant to a water hammer effect of pulsatile blood  
5   than when treated by metal coils.

1                    30.    The apparatus of claim 1 where said biocompatible and  
2 bioabsorbable polymer restricts coil compaction by accelerated scar formation.

1                    31.    The apparatus of claim 1 where said biocompatible and  
2 bioabsorbable polymer restricts aneurysm recanalization by accelerated scar  
3 formation.

1                    32.    The apparatus of claim 1 where said biocompatible and  
2 bioabsorbable polymer induces organized connective tissue to fill an aneurysm  
3 and to retract said aneurysm over time due to maturation of collagen fibers to  
4 reduce aneurysm size and decrease aneurysm compression on brain  
5 parenchyma or cranial nerves.

1                    33.    The apparatus of claim 1 where said biocompatible and  
2 bioabsorbable polymer is less thrombogenic than metal coils and accelerates  
3 aneurysm healing with less thrombogenicity.

1                    34.    The apparatus of claim 1 where said biocompatible and  
2 bioabsorbable polymer comprises a mixture of polyglycolic/ poly-L-lactic acid  
3 copolymers with a 90/10 molar ratio of glycolic to L-lactic acid.

1                    35.    The apparatus of claim 1 where said implant is a hybrid  
2 bioactive coil.

1                    36.    The apparatus of claim 35 where said hybrid bioactive coil is  
2 a composite of said biocompatible and bioabsorbable polymer and an inert  
3 biocompatible coil.

1                    37.    The apparatus of claim 36 where said inert biocompatible  
2 coil is a platinum coil.

1                    38.    The apparatus of claim 36 where said composite of said  
2 biocompatible and bioabsorbable polymer and an inert biocompatible coil  
3 comprises a layer of said biocompatible and bioabsorbable polymer on said inert  
4 biocompatible coil.

1                    39.    The apparatus of claim 36 where said composite of said  
2 biocompatible and bioabsorbable polymer and an inert biocompatible coil  
3 comprises threads of said biocompatible and bioabsorbable polymer attached to  
4 said inert biocompatible coil.